DOCUMENT RESUME

ED 160 657 TM 007 953

AUTHOR Prather, James E.; And Others
TITLE The Relationship of Undergraduate Course Grades with Student Ability Levels, Programs of Study, and Longitudinal Trends: A Multivariate Analysis.
PUB DATE Mar 78
NOTE 20p.; Paper presented at the Annual Meeting of the American Educational Research Association (62nd, Toronto, Ontario, Canada, March 27-31, 1978); Tables may be marginally legible

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Academic Standards; *College Majors; *Courses; *Educational Trends; *Grades (Scholastic); *Grading; Higher Education; Longitudinal Studies; Models; Student Ability; Student Characteristics; *Undergraduate Students; Undergraduate Study
IDENTIFIERS *Grade Inflation

ABSTRACT

The prevalence of grade inflation was analyzed from over 125,000 final grades, representing 144 undergraduate courses and 9,338 students. Grade inflation was defined as a systematic increase in grades for the same course over a five year period, statistically controlling the student's major and academic and demographic background. There was no general, systematic increase in average grades on a course-by-course basis when controlling student ability levels and major. The relatively few courses that showed a systematic longitudinal increase often remained the most stringent in the curricula even after taking grade inflation into account. A few courses exhibited grade deflation but these were almost all leniently-grading courses. Both the most stringent and the most lenient-grading courses showed a trend of regressing toward the mean. Quantitative type courses tend to have stringent grading standards. Apparently, grades are influenced by the associated discipline and the values assigned to grades by the discipline. The course-by-course analyses showed a complex interaction of faculty, students, and curriculum with course grade. As a challenge to further research, the authors suggest that students choose courses and degree programs which have grading standards reflecting their abilities and interests. (Author/GDC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED160657

THE RELATIONSHIP OF UNDERGRADUATE COURSE GRADES WITH STUDENT ABILITY LEVELS, PROGRAMS OF STUDY, AND LONGITUDINAL TRENDS: A MULTIVARIATE ANALYSIS

James E. Prather
Glynton Smith
Janet E. Kodras

Paper Presented to the Annual Meeting
of the American Educational Research Association
Toronto, Canada
March, 1978

TM007 953

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Printed in the United States of America

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
James E. Prather
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

Abstract

This paper describes an empirical model and its application in grade research. The research design is based upon regression analysis. The study tested in a systematic manner to determine if grade inflation was occurring in 144 individual undergraduate courses. Most courses showed no systematic change in grade distribution over time. The increasing GPA's at the institution studied were not generally caused by more lenient course-by-course grading. Rather, the supposition is that more students are moving away from traditional curricula into courses and degree programs which they find have grading standards reflecting their abilities and/or interests.

THE RELATIONSHIP OF UNDERGRADUATE COURSE GRADES WITH STUDENT ABILITY LEVELS, PROGRAMS OF STUDY, AND LONGITUDINAL TRENDS: A MULTIVARIATE ANALYSIS

This paper presents the rationale, method, and findings of a study on grading trends at a large, public university.[1] The purpose is to present a methodology on grading in higher education which empirically tests for the effects of student background characteristics, programs of study, and longitudinal trends on undergraduate grades.

Recent articles in professional journals and in the popular media have expressed concern about a decline in the quality of higher education. A national survey of higher education faculty members illustrated the concern among faculty about academic standards. A major finding was that more than ninety percent of those responding felt that "grade inflation" was a serious problem (Ladd & Lipset, 1977, p. 14). The majority of those surveyed agreed that there had been a widespread lowering of academic standards and that too many poorly prepared students were presently enrolled (Figure 1). Faculty members in "mass" higher education institutions (Tiers 3 and 4) were generally more troubled about changing standards.

---

[1]See Prather and Smith, 1976a; Prather and Smith, 1976b; Prather, Williams, and Kodras, 1977; and Prather and Kodras, 1977.

Figure 1

Faculty Members' Opinions
on Standards of Higher Education

	Too many ill-suited people are now enrolled		Lowering of standards has been widespread	
	Agree	Disagree	Agree	Disagree
Type of institution*				
Tier 1	58%	42%	69%	31%
Tier 2	68%	32%	77%	23%
Tier 3	73%	27%	82%	18%
Tier 4	74%	26%	82%	18%
Academic rank				
Professor	82%	18%	82%	18%
Associate professor	80%	20%	77%	23%
Assistant professor	80%	20%	80%	20%
Instructor	76%	24%	80%	20%
Self-described ideology				
Very liberal	58%	42%	72%	28%
Somewhat liberal	77%	23%	82%	18%
Moderate	69%	31%	78%	22%
Conservative	77%	23%	85%	15%

* Classifications based on academic standing, from elite research universities (Tier 1) to junior colleges and lesser 4-year institutions (Tier 4).

Source: Ladd and Lipset (1977, p. 14)

Although much concern has been expressed about a decline in standards, few studies have empirically analyzed grading trends to see the extent, if any, of change in grades. The difficulty of analyzing large data sets at many institutions precludes the type of course-by-course analysis needed. In this paper we present an analysis model that systematically tests undergraduate course grades. Specifically, the study addresses the following questions:

(1) What is the longitudinal trend in grades within undergraduate courses?

(2) Do different undergraduate courses exhibit measurably different grading patterns?

(3) Does major field of study affect grades within courses?

(4) Do measurable student personal and academic characteristics affect grades?

In answering these questions, we intend to determine empirically if different undergraduate courses have different grading patterns.

Review of Related Literature

This study analyzes the effect of longitudinal trends, student ability levels, and academic discipline on undergraduate grades. Many studies have been concerned with the impact of each of these factors individually.

Longitudinal Trends: Most of the studies dealing with grade trends have been specifically concerned with grade inflation. Grade inflation has been variously identified as:

* An increased proportion of students receiving graduation honors even as student quality appears to be declining (Bolin, 1975).
* A hypocrisy in grading standards, where "wishy-washy grading" is misleading the students about their abilities and achievement (Etzioni, 1975).
* Colleges and faculty are "buying" students with cheaper grades in attempts by faculty to increase their popularity (remuneration) or colleges to increase their enrollment (revenues) (McKenzie, 1975).

A longitudinal study of grades by Engstrand (1975) reported that grade inflation had occurred at the University of Minnesota and varied widely among colleges and departments. He noted that in the last two years a process of deflation was occurring in some departments but that the trend was not clear.

Student Ability Levels: Goldman and Widawski (1976) related grading standards to student ability levels and noted that "this circumstance implies

that professors in a field containing students with high HSGPA's [high school grade point averages] will tend to grade more stringently than will professors in fields with lower HSGPA students" (pp. 388-389). Goldman and Widawski surmise this behavior of differential grading standards is the operation of adaptation-level theory (Helson, 1947). The adaptation-level explanation indicates that students are judged relative to their peers, not on an absolute basis. This is similar to McDonald's survey of faculty who taught introductory level courses (1966). Although the faculty stated they were grading on an absolute scale, the empirical distribution of their grades tended to be relative to the ability levels of their students.

Goldman and Hewitt (1975) also discuss the effect of ability on grades:

> Thus grading standards would be partly determined by the ability level of the student population. If, for example, the ability level declines without an accompanying decline in average grades, then grading standards have "fallen" (or become less "stringent"). (p. 149)

Academic Discipline: Student ability levels influence the types of courses that students take. In Goldman et al. (1974), it was shown that lower ability students tend to major in fields with lenient grading standards and higher ability students are most often in major fields with rigorous standards. Goldman and Hewitt (1975) reported that major fields which had large proportions of lower ability students appeared to have adopted standards that incorporated the lesser ability levels without a concurrent decline in average grades.

Goldman and Widawski (1976) reported that when grades were compared for the same students across the courses they were taking, substantial differences were found between disciplines. They noted that natural science courses had comparatively lower grades than other courses taken by the same students.

Hartnett and Centra (1977) also concluded that significant differences do exist in the grading procedures between individual departments, and therefore the standards and effects of higher education should be studied at the departmental, rather than the university, level.

Faculty grading practices have been investigated, showing that faculty members' opinions about grading correlate strongly with their academic disciplines (Oh, 1976). Oh showed that natural science faculty members generally were more objective about and had more confidence in their grading practices than other faculty members while the humanities faculty tended to have the least confidence in their grading practices. He reported that social science faculty seemed to be more adaptive to the current academic milieu.

Goldman and Slaughter (1976) noted that GPA is less reliable as a measure of a "college education" than the individual course grades. GPA's were found to be statistically less reliable than course grades.

Research Design

Sample: The study sample contains 9,338 records for undergraduate students who had attempted 40 or more hours as of Fall Quarter, 1975 and were also enrolled in one or more courses during the period Summer Quarter, 1974 through Fall Quarter, 1975. More than 125,000 grades were recorded for 144 individual courses covering the period from Fall, 1970 through Fall, 1975. An undergraduate course was included if a total of at least 500 students were enrolled during the study period.

Model: As operationally defined for this study, "grade inflation" is a consistent, systematic increase in average grades received by students in a particular course, after taking into account the students' major field and

background. The general linear model of stepwise multiple regression was used to study change in grades through time. This flexible and powerful technique permits comparable analyses for different courses. Since grade analysis is still in the formative stage, the approach in this study is necessarily exploratory and focuses on empirical findings rather than the testing of a priori hypotheses. The analysis is admittedly brute-force empiricism but is necessary in order to grasp systematic and comparable grading patterns.

The dependent variable (response) was the final course letter grade using the 4.0 scale where A = 4, B = 3, C = 2, D = 1, and F and WF = 0. Incompletes, audits, and withdrawal grades were excluded. Independent variables included the following:

1) Dummy variables representing the year and quarter a course was taken were included to ascertain the trend of grades over time.
2) Dummy variables for each of 28 major fields of study were used to incorporate programs of study factors.
3) Demographic and academic background variables were employed for control purposes. The variables used to measure student demographic characteristics were: age, sex, minority status, class, veteran status, credit hours attempted, credit hours transferred, and number of years since high school. The academic variables used were cumulative grade point average, major field of study, high school GPA, transfer GPA, and scores on the verbal and quantitative sections of the Scholastic Aptitude Test (SAT).
4) Test scores and age were not available for every individual student. When a variable had a missing value, the mean value for

the appropriate variable was substituted. To determine the impact of this method of handling missing data, dummy variables were constructed which indicated where the missing values were inserted (Cohen & Cohen, 1975). This technique allows an objective measure of the impact of missing data on the dependent variable.

The regression was defined so that the year-the-course-was-taken dummy variables were forced into the equation first, then all other variables were allowed to enter based upon their orthogonal contribution to explaining variation in the course grade.

Limitations: It is not possible to account for all factors that may influence grades. Such student characteristic variables as personality, artistic ability and the like, are not controlled for. Only those variables available in the computerized student data base could be included in the study. Ability levels of students are systematically controlled for on a course-by-course basis; however, the data base sample does not permit comparisons of student abilities in one course with student ability levels in another course.

Another limitation is that no criteria external of grades themselves, such as standardized achievement tests, are available to account for learning--i.e., maturation effects--by students. Thus, the proposed test of grade inflation is most liberal and our estimates of grade inflation contain a maturation component. That is, the bias is toward finding grade inflation, and the actual amount of grade inflation itself is certainly lower than our crude estimates. The degree to which grade inflation is present in variables such as high school GPA's and transfer GPA's is not known and its effects must be assumed to be random.

ANALYSIS

Figure 2 presents the regression equations for a cross-section of the 144 individual courses. High, medium, and low grading courses (as determined by the mean sample grade and constant) are included in the analysis. The following summaries of three courses are meant to be a guide to the interpretation of the regressions. The complex and dynamic relationships can not be summarized in a few short statements. We focus primarily on estimators which are more than twice their standard errors to be fairly confident of the findings.

General Education, with a mean sample grade of 3.37 and a constant of 1.52, is an example of a high-grading course. Highlights for this course include:

* The grading trend for the study period has been downward. This can be illustrated by noting how the estimators for the course dropped from .43 in 1971 to -.15 in 1975 which is indicative of .58 average decrease in a letter grade controlling for all other factors.
* Psychology majors received on the average .31 of a letter grade higher in this course. Other major field estimators which were positive include: Political Science (.60), Biology (.52), and Special Education (.21).
* The estimator for Summer Quarter was -.11 and for Spring, .14. This indicates that students of similar academic ability levels would be predicted to receive one-fourth of a letter grade higher Spring Quarter than those who take the course Summer Quarter.

The mean sample grade for General English was 2.51 and the constant .11 and is therefore in the middle range of grading. Highlights of the table include:

FIGURE 2

EFFECT OF STUDENT CHARACTERISTICS AND TREND VARIABLES ON GRADES RECEIVED IN 13 UNDERGRADUATE COURSES, 1970-75*

	VARIABLES	GENERAL BIOLOGY	ACCOUNTING	BANKING AND FINANCE	DATA PROCESSING	GENERAL EDUCATION	MUSIC APPRECIATION	GENERAL ENGLISH	GENERAL MATH	GENERAL CHEMISTRY	PSYCHOLOGY	LAW ENFORCEMENT	ECONOMICS	PHILOSOPHY
YEAR	1975	.87	.67	.57	.55	- .15	- .19	.47	.32	.61	.39	- .36	.90	.72
	1974	.94	.55	.35	.42		- .12	.31	.30	.54	.31	- .38	.75	.41
	1973	.75	.58	.27	.37	.13	- .23	.17	.12	.66	.32	- .55	.67	.16
	1972	.81	.53	.16	.48	.01	- .22	.34	.05	.68	.27	- .46	.53	.19
	1971	.87	.31	.25	.29	.43	- .21	.37	- .04	.63	- .10	- .43	.52	.13
QUARTER	FALL	- .13	- .06	- .03	- .09	.03			- .03		.02	- .05	- .04	- .19
	WINTER	- .19	.02	- .11	- .04		.04	- .02	- .08	- .03	.24	- .16	.11	- .09
	SPRING		- .05	- .19	- .18	.14	- .05	.04		.04		.10	.15	
	SUMMER	- .01				- .11	.01	.10	.14		.15			
TEST SCORES	GPA	1.06	1.02	1.04	1.03	.60	.85	.72	1.09	.56	.84	.86	.88	.99
	HIGH SCHOOL GPA	- .02	.01	.005	- .02	.03	.06	.03	.10	.12	.04	- .01		.01
	TRANSFER GPA	.01	- .04	- .04	- .05	- .02	.003	- .01	- .05	- .08	- .06	.02	- .002	- .04
	SAT - MATH	.0002	.0009	.0002	.002	.004	- .0004	- .0002	.004	- .001	- .0005	.0006		- .0005
	SAT - VERBAL	.001	- .00008	- .0004	- .0004	- .0006	.0001	.0008	- .002	.0004		.0009	.0007	.0005
MAJOR	ACCOUNTING	.16	.26	.38	.20		.29	- .05	.32	- .14	.03	.19	.23	.07
	ANTHROPOLOGY	.28	.35		- .18	.37	- .04	- .15	.08	- .25	.13	.08	.29	- .07
	BIOLOGY	.64	- .21	.39	.33	.52	.34	.01		.16	.14	.49	.34	.19
	BUSINESS EDUCATION	.19	- .30	- .05	.08	.10	.40	- .04	.35	- .53	.23		.10	- .13
	EARLY CHILDHOOD EDUCATION	- .22	.21			.05	- .25	- .38		- .37	- .76	- .49	- .37	-1.25
	ECONOMICS	- .59		.07	.09	- .32	.12	.07	.29	- .19	.13	- .13	.25	- .39
	ELEMENTARY EDUCATION	- .51	- .85			.009	- .09	- .25	- .08		- .43	- .45	- .51	- .15
	ENGLISH	.11	- .16		.28	.17		.42	- .10	- .36	- .32	- .44	.03	- .17
	FINANCE			.32	.005		.23	- .15	.47	.79	- .51	.36	.32	-1.32
	GENERAL STUDIES	.14	- .19		.49	.08	- .04	- .18	.05	- .51	.11	.08	.29	- .47
	HISTORY	- .26	- .83	- .32		.09	.25	.04	- .09	- .73	- .14	.52	- .07	.15
	JOURNALISM	- .10	- .32	.56	.29	- .15	.10	.21	.13	- .19		- .28	- .11	
	LAW ENFORCEMENT		- .09			.16	.33	- .02	.12	.35	- .17	.16	.09	- .20
	MANAGEMENT	-1.22	- .05		- .07	- .28	.15	- .07	.47	.08	- .20	- .04	.13	- .05
	MARKETING	- .32	- .10	.07	.17	.30	.24	- .13	- .20	.46	- .51	- .16	.08	- .16
	MATH	- .26	.28	- .88	.41	.04	.28	.05	.59	- .04	- .05	.39	.51	.24
	MEDICINE, GENERAL	.76	.47		.34		.14	.10	.92	.22		.12	.16	- .18
	MUSIC	- .75	- .21		.30	- .09	1.16	- .10	- .19	- .95	-1.54		.46	
	NURSING	.22			1.07	.06	.03	- .08	.38	- .36	- .02	.32	- .42	.10
	POLITICAL SCIENCE		- .13	- .60	.09	.60	- .03	.05	.32	- .17	.21	.18	.11	- .19
	PSYCHOLOGY	- .06	.03	.58	- .03	.31	.03	- .09	.13	- .07	.18	- .19	.11	.02
	REAL ESTATE		.04	- .14	.08		.04	- .12		.41	- .61	- .16	.23	-1.88
	SECONDARY EDUCATION	- .28	- .22		.38	.21	.21	- .06	.02	- .55	- .29	.39	- .06	- .33
	SOCIOLOGY	.18	.33	.40	- .96	- .12	.04	- .13	.06	.34	.12	.09	- .04	.03
	SOCIAL WORK	.33		-2.28	- .07	.37	.09	- .20	- .13	-1.22	- .27	.07	- .30	.36
	SPECIAL EDUCATION	-1.30	- .36			.07	- .33	.31	- .26	- .23	- .28	-1.05	- .13	- .31
	STUDIO	.11	- .35	- .32	.48	- .09	- .07	- .25		- .22	.27		- .15	- .24
	UNDECLARED		.009	.11	.16	- .04	.25	- .09	.22	.12	- .04	.20	.21	- .06
DEMOGRAPHIC	AGE	- .005		.005	- .02	.02	.01	- .008	- .02	- .04	- .005	.001	.006	- .005
	CLASS	- .15	.06	- .10	.009	.02		.04	- .05	- .06	.01	- .10	.06	- .04
	HOURS ATTEMPTED	.001	- .0006	.003	- .0004	.0004	.001	- .002	- .006	.002	.001	.003	.00009	.0005
	HOURS TRANSFERRED	.001	- .002	.002	- .0007	- .001	- .001	- .0003	.0008	.004	.0003	.0002	- .001	.0009
	MINORITY	.03	- .009	- .16	.06	- .03	- .10	- .01	- .19	- .18	.02	.03	.04	.07
	FEMALE	- .04	- .08	- .16	- .08	.10	.12	.11		.07	.18	.05	- .04	.21
	VETERAN	- .04	.03	.02	.01	- .04	.05	- .007	- .02	- .16	- .02	.07	- .02	.06
	YEARS SINCE HIGH SCHOOL GRAD.	.003	.01		.01	- .01	- .004	.002		.05	- .003	- .02	.004	
MISSING DATA	MISSING: AGE	- .03	.04	.20	- .07	.27	.43	- .06	.42	.17	.11	.07	- .07	- .15
	MISSING: SAT - MATH	.18		.31	- .69		.08		- .31	- .14	- .58	- .77		.08
	MISSING: SAT - VERBAL		.13	- .28	.67	- .02			.25		.57	.65		
	MISSING: HIGH SCHOOL GPA	.02	.10	.008	.007	- .05	- .15	.02	- .06	.14	.02	.14	.11	.06
	MISSING: YRS. SINCE H.S. GRAD.	.01	.03	- .04	.13	- .11	- .24	.008	- .02	.08	- .10	.02	.07	- .11
REGRESSION DATA	CONSTANT	-1.57	-1.52	- .79	- .95	1.13	.31	.11	- .62	.84	.46	.06	-1.18	- .30
	R^2	.56	.37	.38	.34	.24	.34	.30	.40	.25	.34	.50	.39	.43
	STANDARD ERROR OF ESTIMATOR	.73	.89	.80	.93	.73	.78	.75	.94	.92	.86	.60	.77	.85
	NUMBER OF GRADES	636	2640	1762	2657	1053	1294	3916	1880	657	1540	550	2616	749
	MEAN SAMPLE GRADE	2.39	2.23	2.45	2.31	3.37	3.10	2.51	2.48	2.72	3.04	2.54	2.59	2.59
	STANDARD DEVIATION	1.06	1.11	1.01	1.13	.82	.95	.89	1.20	1.03	1.04	.81	.98	1.09

* Regression estimators give the estimated letter grade impact that a typical student with the characteristics listed would receive in a course. For example, the estimated [illegible]

* No trend in either an increase or decrease of grades was apparent for the course during the study period. Grades dipped slightly in the middle of the study but returned to the 1971 level of 1975.
* English majors (.42) recorded almost half a letter grade higher than average in this English course. Special Education (.31) and Journalism (.21) majors also evidenced positive weights.
* Early Childhood Education (-.38), Elementary Education (-.25), and General Studies (-.18) majors recorded lower than average grades in this course.
* Females (.11) average approximately on-tenth of a letter grade higher in this course.
* There is a slight but systematic positive relationship between SAT-Verbal scores (.0008) and grades received in this English course.

Highlights for Accounting include:

* The grading over time has shown an upward trend, with an increase of .36 of a letter grade during the study period.
* SAT-Math had a weak, but systematic effect.
* Accounting majors (.26) evidenced the only positive estimator more than twice its standard error and therefore were the only major field who averaged systematically higher grades in this accounting course.
* Majors with negative estimators are: Elementary Education (-.85), History (-.83), and Business Education (-.30).
* The estimator for Years Since High School was positive. The longer the time period between high school graduation and taking the course, the higher the average grade.
* Transfer GPA and Hours Transferred evidenced negative estimators.

Note that the sample mean grade for students taking this course was 2.23 and the constant was -1.52, indicators that the course is associated with lower grading. While grades have increased during the study period, this course still has a stringent grading pattern. It is, however, less stringent now than it was.

SUMMARY

This study has empirically investigated the prevalence of grade inflation that existed in undergraduate courses. More than 125,000 final course grades, representing 144 undergraduate courses and 9,338 students, were analyzed by means of multiple regression. Grade inflation was defined as a systematic increase in grades for the same course over a five year period (Fall 1970 - Fall 1975), statistically controlling for the student's major field of study and academic and demographic background.

There was not a general, systematic increase in average grades on a course-by-course basis when controlling for student ability levels and program of study. The relatively few courses that showed a systematic longitudinal increase often remained the most stringent in the curricula even after taking grade inflation into account. A few courses exhibited grade deflation but these were almost all leniently-grading courses. Both the most stringent and the most lenient-grading courses showed a trend of regressing toward the mean. Quantitative type courses tend to have stringent grading standards. Thus, it appears that grades are influenced to no small degree by the associated discipline and the values assigned to grades by the discipline.

The course-by-course analyses showed an interesting interaction of predictor variables with course grades. Grades seemed to result from a complex

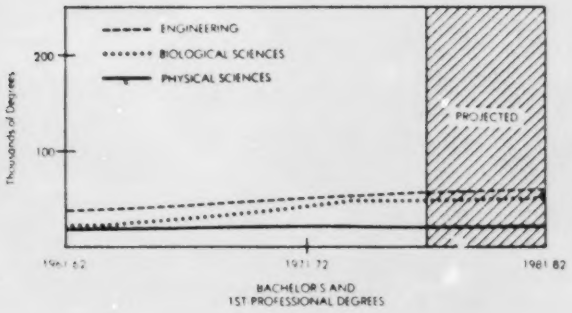
interaction of faculty, students, and curriculum. The heterogeneous nature of the analysis makes it impossible to list these multiple relationships. However, they are vitally important to a full understanding of grading patterns. A number of courses had highly predictable grades, while others were not so predictable. The general fit of the equations as measured by R^2's showed many courses to be about as predictable as are Freshman GPA (Goldman and Slaughter, 1976).

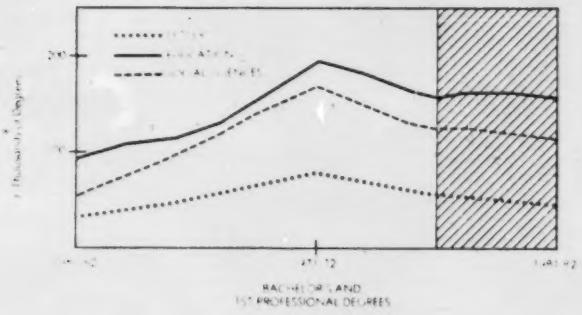
DISCUSSION

Undergraduate degree programs have grown substantially in recent years, but the growth rate by academic area has not been uniform (Figure 3). Enrollments in the traditional fields are stabilizing while enrollments in the recently popular professional fields are increasing. As has been noted by Blackburn et al. (1976), college curricula throughout the country have been altered to require fewer traditional courses while there has been an increase in the number of new specialized courses. This restructuring and expansion of the curriculum creates additional options for students who may select courses, majors, and degree programs tailored to their specializations. Often, the result is a higher grade point average for the individual student. Courses identified in this report as having more lenient grading, after controlling for the ability level of the student population, tend to be associated with these new curricula.

Figure 3

National Trend in Bachelor's and First Professional Degrees
By Academic Area, Selected Fiscal Years, 1962-1985





Source: American Council on Education, A Factbook on Higher Education, Earned Degrees, Fourth Issue, 1976. Reprinted by permission of the editor.

To challenge other researchers to address the grade question, the following supposition is offered:

> Faculty, as a group, are not haphazardly giving higher grades. Rather, within the student population, there has been a change in course enrollments away from traditional curricula. It is suggested that many students are exercising their prerogatives to avoid courses with stringent grading practices (resulting in course proliferation and degree inflation). That is, more students are moving into courses and degree programs which they find have grading standards reflecting their abilities and/or interests.

REFERENCES

American Council on Education. A Factbook on Higher Education, Earned Degrees. Fourth Issue, 1976.

Blackburn, R., E. Armstrong, C. Conrad, J. Didham, and T. McKune. Changing Practices in Undergraduate Education, A Report for the Carnegie Council on Policy Studies in Higher Education. Berkeley: The Carnegie Foundation for the Advancement of Teaching, 1976.

Bolin, J. G. "Honors Inflation." In D. W. Vermilye (Ed.), Learner-Centered Reform. San Francisco: Jossey-Bass, 1975.

Cohen, J. and P. Cohen. Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences. New York: John Wiley and Sons, 1975.

Engstrand, G. A Longitudinal Study of Grades Awarded at the University of Minnesota, Twin Cities Student Assembly, 1975.

Etzioni, A. "Grade Inflation." Science, 1975, vol. 190, p. 101.

Goldman, R. D. and B. N. Hewitt. "Adaptation-level as an Explanation for Differental Standards in College Grading." Journal of Educational Measurement, 1975, vol. 12, pp. 149-161.

Goldman, R. D., D. E. Schmidt, B. N. Hewitt, and R. Fisher. "Grading Practices in Different Major Fields." American Educational Research Journal, 1974, vol. 11, pp. 343-357.

Goldman, R. D. and R. E. Slaughter. "Why College Grade Point Average is Difficult to Predict." Journal of Educational Psychology, 1976, vol. 68, pp. 9-14.

Goldman, R. D. and M. Widawski. "A Within-Subjects Technique for Comparing College Grading Standards: Implications in Validity of the Education of College Achievement." Educational and Psychological Measurement, 1976, vol. 36, pp. 381-390.

Hartnett, R. and J. Centra. "The Effects of Academic Departments on Student Learning." Journal of Higher Education. September-October, 1977, vol. 48, no.5, pp. 491-507.

Helson, H. "Adaptation-level as Frame of Reference for Prediction of Psychophysical Data." American Journal of Psychology, 1947, vol.60, pp. 1-29.

Ladd, E. and S. Lipset. "The Faculty Mood: Pessimism is Predominant." The Chronicle of Higher Education. October 3, 1977, vol. 50, no. 5, pp. 1, 14.

McDonald, T. F. "An Investigation of the Effects of a Rapid Transition from 'Open Door' to 'Selective' Admissions." (Doctoral dissertation, Michigan State University, 1966). Dissertation Abstracts, 1967, vol. 27, p. 4084. (University Microfilms No. 67-7579).

McKenzie, R. B. "The Economic Effects of Grade Inflation of Instructor Evaluations: A Theoretical Approach." Journal of Economic Education, 1975, vol. 6, pp. 99-106.

Oh, E. K. "A Study of Instructor Grading Philosophies and Practices at Western Michigan University." (Doctoral Dissertation, Western Michigan University, 1976). Dissertation Abstracts International, 1976, vol. 36, pp. 7239A-7246A. (University Microfilms No. 76-10, 555).

Prather, J. E. and G. Smith, 1976a. Faculty Grading Patterns. Georgia State University, Office of Institutional Planning, Report No. 76-12, April, 1976. Included in ERIC Resources in Education, 1977, vol. 12, no. 2, p. 89. ERIC Order No. ED 129-172.

Prather, J. E. and G. Smith, 1976b. An Analysis of Undergraduate Grades by Course in Relation to Student Ability Levels, Programs of Study, and Longitudinal Trends. Georgia State University, Office of Institutional Planning. Report No. 76-15, May, 1976. Included in ERIC Resources in Education, vol. 12, no. 11, p. 89. ERIC Order No. ED 129 166.

Prather, J. E., J. E. Williams, and J. E. Kodras. The Relationship of Major Field of Study with Undergraduate Course Grades: A Multivariate Analysis Controlling for Academic and Personal Characteristics and Longitudinal Trends. Georgia State University, Office of Institutional Planning. Report No. 77-3, August, 1976. Included in ERIC Resources in Education, vol. 12, no. 5, p. 98. ERIC Order No. ED 132 898.

Prather, J. E. and J. E. Kodras. A Multivariate Analysis of Student Grades in 138 Graduate Courses. Georgia State University, Office of Institutional Planning. Report No. 77-9, January, 1977. Included in ERIC Resources in Education, vol. 12, no. 11, p. 121. ERIC Order No. ED 140 731.

Prather, J. E. and J. E. Kodras. Graduate Students' Grades for 55 Major Fields: A Multivariate Study. Georgia State University, Office of Institutional Planning. Report No. 78-10, October, 1977. Submitted for inclusion in ERIC Resources in Education.